

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 1 for Selected Projects Awarded Funding Through
the Alternative and Renewable Fuel and Vehicle Technology
Program Under Solicitation GFO-16-601 – Zero-Emission
Vehicle Readiness

California Energy Commission

Edmund G. Brown Jr., Governor

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The AQIP Guidelines require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this Localized Health Impacts Report is required to be available for public comment for 30 days prior to the approval of projects.

This Localized Health Impacts Report analyzes the combined impacts, including exposure to air contaminants or localized air contaminants, or both, in communities surrounding proposed ARFVTP-funded projects, including, but not limited to, communities of minority populations or low-income populations, as declared by the project proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this Localized Health Impacts Report.

Keywords: Air pollution, air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), localized health impact (LHI), zero-emission vehicle (ZEV)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this Localized Health Impacts Report describes the alternative fuel projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This Localized Health Impacts Report focuses on the potential impacts projects may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this Localized Health Impacts Report are assessed for potential health impacts for the communities in which they will be located. Based on this analysis, it is not anticipated that implementing these projects will have negative impacts because there will not be a net increase in criteria and toxic emissions, especially in those communities that are considered most vulnerable. Potentially, the readiness plans stand to provide improved quality of life through zero-emission vehicle acceptance and use.

CHAPTER 1:

Projects Proposed for Funding

On October 17, 2016, the California Energy Commission released a competitive grant funding opportunity titled “Zero-Emission Vehicle (ZEV) Readiness” (GFO-16-601) under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant opportunity was an offer to fund projects that support new and existing planning efforts for ZEVs (battery-electric vehicles, hydrogen fuel cell electric vehicles, and plug-in hybrid electric vehicles).

On January 12, 2017, the Energy Commission posted the notice of proposed awards (NOPA) for GFO-16-601, resulting in six projects proposed for funding. A Localized Health Impact Report for these projects was posted on February 3, 2017 (CEC 600-2017-003).¹

On March 8, 2017, the Energy Commission revised the NOPA, identifying three additional projects proposed for funding. This addendum uses the same approach to assess and report as the original Localized Health Impact Report and will be available for public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the applicant, project name, project address, and environmental justice (EJ) indicators. (See Appendix A.)

Table 1: Proposed Projects for Zero-Emission Vehicle Readiness With Environmental Justice Indicators

Applicant	Project Name	Project Address	EJ Indicator(s)
Sacramento Metropolitan Air Quality Management District	ZEV Readiness in the Sacramento Region	777 12th Street, 3 rd Floor Sacramento, CA 95814	Poverty and Unemployment
San Bernardino Council of Governments	San Bernardino Countrywide ZEV Readiness and Implementation Plan	1170 W. 3 rd Street, 2 nd Floor San Bernardino, CA 92410	Poverty, Unemployment, Age, and Minority

¹ Brecht, Patrick. 2017. Localized Health Impacts Report for Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation GFO-16-601 –Zero-Emission Vehicle Readiness. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2017-003.

Applicant	Project Name	Project Address	EJ Indicator(s)
Tuolumne County Transportation Council	Central Sierra Zero-Emission Vehicle Readiness Plan	2 South Green Street Sonora, CA 95370	Poverty, Unemployment, and Age

Source: California Energy Commission staff

ZEV Readiness in the Sacramento Region

The Sacramento Metropolitan Air Quality Management District proposes to develop a regional plan that promotes ZEV deployment, specifically fuel cell electric vehicles and hydrogen refueling stations, as well as plug-in vehicles and direct current fast charging. The regional plan will identify infrastructure, policies, incentives, and processes that will encourage high-mileage drivers, including super commuters, transportation network company drivers, fleet operators, and transit companies to replace conventional vehicles with ZEVs. The plan will include the greater Sacramento metropolitan region, which includes the cities of Sacramento, West Sacramento, Davis, Elk Grove, and Roseville, and the unincorporated areas of Sacramento, Placer and Yolo counties.

San Bernardino Countrywide ZEV Readiness and Implementation Plan

The San Bernardino Council of Governments proposes to develop a ZEV readiness plan in preparation of implementing future ZEV infrastructure in the region. The proposed plan will include a roadmap identifying ZEV charging infrastructure deployment sufficient to support the anticipated number of ZEVs adopted in San Bernardino County by 2020 and 2025 based on extrapolation of the Governor's ZEV Action Plan. The proposed plan will focus on identifying electric vehicle charging opportunities throughout San Bernardino County with a special emphasis on Metrolink and transit stations, as well as in municipalities/government agencies, workplace, retail locations, and multi-unit dwelling sites.

Central Sierra Zero-Emission Vehicle Readiness Plan

The Tuolumne County Transportation Council proposes to develop a ZEV readiness plan for the Central Sierra Region that includes Alpine, Amador, Calaveras, and Tuolumne counties. The proposed plan will include a study of the barriers to ZEV deployment in the region and provide recommendations for the steps necessary to overcome the barriers to support ZEVs in the near term, midterm, and long term. The plan will include (1) an analysis of site locations for charging stations, (2) a ZEV market analysis, (3) methods to streamline permitting, installation, and inspections for ZEV infrastructure, (4) an analysis of the feasibility of ZEV adoption in municipal fleets, and (5) the creation of a venue for stakeholder coordination.

CHAPTER 2:

Approach

The Localized Health Impact Report (LHI Report) Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the proposed readiness plans. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.² Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,³ which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*.⁴

For this LHI Report, the Energy Commission interprets “permits” to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial level permits in this report.

The cities where the projects will be located are in nonattainment zones for ozone, PM⁵ 2.5 and PM 10. Table 1 shows the EJ indicators for the three additional projects, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics, indicating that all three cities are classified high-risk communities, according to the Environmental Justice Screening Method (EJSM).

² California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

³ <http://www.arb.ca.gov/planning/sip/sip.htm>.

⁴ <http://www.epa.gov/oaqps001/greenbk>.

⁴ “Particulate matter” is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and is a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 3:

Summary

If funded, the proposed projects would support new and existing planning efforts for ZEV readiness and will help to achieve both California state energy and climate change goals.

The anticipated impacts to the communities where the projects are to be located are positive in terms of air quality and anticipated greenhouse gas reductions as a result of ZEV adoption.

As indicated in Table 1, with further detail in Table 2, Sacramento, San Bernardino, and Sonora are all considered high-risk communities, as identified in Appendix A. However, the anticipated health benefits from the proposed projects for the people in the communities, especially the disadvantaged communities, are highly likely, if not certain, to be positive. The Energy Commission expects that air quality will improve over time where the readiness plans are proposed, along with the net benefit to California.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Electric vehicle (EV)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Grant funding opportunity (GFO)

Greenhouse gas (GHG)

Localized health impact (LHI)

Notice of proposed awards (NOPA)

Particulate matter (PM)

State Implementation Plan (SIP)

Zero-emissions vehicle (ZEV)

Table 2: Environmental Justice (EJ) Indicators Compared With California
Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators by Category	Below Poverty Level (2014)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (February 2017)
California		15.3%	6.2%	1.0%	13.0%	37.6%	6.8%	11.4%	5.0%
		>15.3%	>30%	>30%	>30%	>30%	>8.16%	>13.8%	>5.0%
Sacramento	2	22.0%	14.6%	1.1%	18.3%	26.9%	7.5%	10.6%	5.4%
San Bernardino	4	33.4%	15.0%	1.3%	4.0%	60.0%	9.3%	7.9%	6.6%
Sonora	3	28.0%	0.5%	1.9%	1.6%	11.1%	5.6%	16.6%	5.7%

Sources: Unemployment information from the State of California, Employee Development Department Labor Market Information Div.:

<http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html#Tool> and <http://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html>

U.S. Census Bureau, <http://www.census.gov/quickfacts/table/PST045215/0664000.06.00> and http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB AQIP Guidelines*, this LHI Report assesses the potential impacts to communities because of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This LHI Report is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This LHI Report includes staff's application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks⁶.

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

⁶ California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high-risk communities, environmental justice (EJ) indicators for locations of ZEV readiness implementation are compared to data from the U.S. Census Bureau or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high-risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 2.5 or PM 10

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population.
 - A city's poverty level exceeds California's poverty level.
 - A city's unemployment rate exceeds California's unemployment rate.
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California.